In re Application of: Ron HILLELY
Serial No.: 10/553,631
Filed: October 19, 2005
Office Action Mailing Date: May 11, 2009

Examiner: Jaymi E. DELLA
Group Art Unit: 4137
Attorney Docket: 30669

In the Claims:

1. (Currently Amended) A method for guiding a therapeutic probe to a treatment target within the body of a patient, comprising:

(a) inserting an orientation probe into the body of a patient and positioning said orientation probe so that said orientation probe has a known spatial relationship to said treatment target, then subsequently ;

~~(b)~~ rigidly affixing to said orientation probe a template which comprises at least one probe guide operable to constrain movement of a therapeutic probe inserted therethrough in a controlled direction, said controlled direction being aligned with said treatment target when said template is rigidly affixed to said inserted orientation probe; and

(b~~e~~) inserting at least one therapeutic probe through said at least one probe guide into the body of a patient,

thereby guiding said inserted therapeutic probe to said treatment target.

2. (Original) The method of claim 1, further comprising operating said at least one therapeutic probe, when positioned at said treatment target, to ablate at least a portion of said treatment target.

3. (Original) The method of claim 1, further comprising utilizing an imaging modality to position said orientation probe so that said orientation probe has a known spatial relationship to said treatment target.

4. (Original) The method of claim 3, wherein said utilized imaging modality is selected from a group consisting of ultrasound imaging, CT scanning, X-ray imaging, fluoroscope imaging, and MRI.

5. (Original) The method of claim 1, further comprising positioning said orientation probe so that a distal portion of said orientation probe is positioned within said treatment target.

6. (Original) The method of claim 1, wherein said at least one therapeutic probe is a cryoprobe operable to cryoablate tissue at said treatment target.

7. (Original) The method of claim 6, wherein said cryoprobe is operable to be cooled by Joule-Thomson cooling.

8. (Original) The method of claim 7, wherein said cryoprobe is further operable to be heating by Joule-Thomson heating.

9. (Original) The method of claim 1, wherein said template comprises an elastic pressure clamp utilizable to rigidly affix said template to said orientation probe.

10. (Original) The method of claim 9, wherein said elastic pressure clamp is operable to be released by pressure on a handle of said template.

11. (Original) The method of claim 1, wherein said template comprises a plurality of probe guides.

12. (Original) The method of claim 11, further comprising inserting a plurality of therapeutic probes into the body of a patient, each through one of said plurality of probe guides.

13. (Original) The method of claim 1, wherein said orientation probe comprises a set of marks useable to measure a distance of insertion of said orientation probe through said template.

14. (Original) The method of claim 13, wherein said at least one therapeutic probe comprises a set of marks useable to measure a distance of insertion of said at least one therapeutic probe through said template.

In re Application of: Ron HILLELY
Serial No.: 10/553,631
Filed: October 19, 2005
Office Action Mailing Date: May 11, 2009

Examiner: Jaymi E. DELLA
Group Art Unit: 4137
Attorney Docket: 30669

15. (Original) The method of claim 14, further comprising inserting said at least one therapeutic probe to a distance having a selected relationship to a measured distance of insertion of said orientation probe through said template.

16. (Original) The method of claim 1, wherein said at least one probe guide is an aperture in said template, said aperture being designed and constructed to constrain a therapeutic probe inserted therethrough to movement along a predetermined axis.

17. (Original) The method of claim 16, wherein said template further comprises a plurality of said apertures.

18. (Original) The method of claim 17, wherein said template comprises a plurality of mutually parallel apertures.

19. (Original) The method of claim 16, wherein said axis of said aperture is perpendicular to a surface of said template.

20. (Original) The method of claim 17, wherein said template comprises a plurality of apertures having axes oriented in a common direction.

21. (Original) The method of claim 20, wherein said common direction is perpendicular to a surface of said template.

22. (Original) The method of claim 20, wherein said common direction is substantially parallel to a longitudinal axis of said orientation probe when said orientation probe is affixed to said template.

23. (Original) The method of claim 22, wherein said common direction is perpendicular to a surface of said template.

24. (Original) The method of claim 1, wherein said orientation probe is a therapeutic probe.

25. (Original) The method of claim 1, wherein said orientation probe is a cryoprobe.

26. (Original) The method of claim 1, wherein said at least one probe guide is of fixed orientation with respect to said template.

27. (Original) The method of claim 1, wherein said at least one probe guide is of variable orientation with respect to said template.

28. (Original) The method of claim 11, wherein said template comprises a plurality of probe guides whose axes are oriented so as to concentrate distal portions of a plurality of probes inserted therethrough.

29. (Original) The method of claim 11, wherein said template comprises a plurality of probe guides whose axes are oriented so as to disperse distal portions of a plurality of probes inserted therethrough.

30. (Original) The method of claim 1, wherein said template is constructed of ertacetal resin.

31. (Currently Amended) The method of claim 1 wherein said template further comprises circular markings indicating boundaries of tissue destruction expected when ablation probes are inserted through probe guides of said template into a body of a patient and said ablation probes are activated to ablate body tissues ~~under standardized conditions~~.

32. (Original) The method of claim 1, wherein said template is rigidly affixed to said orientation probe by pressure clamping.

In re Application of: Ron HILLELY
Serial No.: 10/553,631
Filed: October 19, 2005
Office Action Mailing Date: May 11, 2009

Examiner: Jaymi E. DELLA
Group Art Unit: 4137
Attorney Docket: 30669

33. (Original) Te method of claim 32, wherein said pressure clamping is accomplished by additional steps of:

(d) squeezing a handle of said template to cause separation of two portions of said template;

(e) positioning said separated portions of said template around said orientation probe, after said orienatation probe has been inserted according to the procedure of step (a);

(f) releasing said handle of said template, thereby allowing said separated portions of said template to spring back towards each other, thereby seizing a portion of said orientation probe between said separated portions;

thereby rigidly affixing said template to said orientation probe.

34. (Original) The method of claim 1, wherein at least a portion of said treatment target is within a prostate.

35. (Original) The method of claim 1, wherein at least a portion of said treatment target is within a liver.

36. (Original) The method of claim 1, wherein at least a portion of said treatment target is a within a kidney.

37. (Currently Amended) A device for guiding a therapeutic probe to a treatment target ~~within the body of a patient~~, comprising:

(a) an orientation probe capable of being insertable into the body of a patient in such a manner that a distal portion of said orientation probe is positioned within said treatment target; and

(b) a template independent of said orientation probe but capable of being rigidly affixed to said orientation probe after said orientation probe is so inserted and positioned, said template comprises at least one probe guide operable to constrain movement of a therapeutic probe inserted therethrough in such a manner that if said orientation probe is so positioned and said template is so affixed, then said

therapeutic probe inserted through said probe guide will be constrained to move towards said target.

~~a template operable to be rigidly affixed to an orientation probe inserted in the body of a patient, which template comprises at least one probe guide operable to constrain movement of a therapeutic probe inserted therethrough to movement in a controlled direction, such that if an orientation probe is inserted into the body of a patient in such manner that a distal portion of said orientation probe is positioned within said treatment target, and said template is rigidly affixed to said orientation probe, then a therapeutic probe being inserted into the body of a patient through said at least one probe guide will be constrained to move towards said treatment target.~~

38. (Original) The device of claim 37, further comprising said orientation probe.

39. (Original) The device of claim 38, wherein said orientation probe is a therapeutic probe.

40. (Original) The device of claim 39, wherein said therapeutic probe is a cryoprobe.

41. (Original) The device of claim 38, wherein said orientation probe is a solid probe devoid of differentiated internal parts.

42. (Original) The device of claim 37, further comprising at least one therapeutic probe operable to be inserted into the body of a patient through said at least one probe guide.

43. (Original) The device of claim 42, wherein said therapeutic probe is an ablation probe operable to ablate tissue at said treatment site.

In re Application of: Ron HILLELY
Serial No.: 10/553,631
Filed: October 19, 2005
Office Action Mailing Date: May 11, 2009

Examiner: Jaymi E. DELLA
Group Art Unit: 4137
Attorney Docket: 30669

44. (Original) The device of claim 42, wherein said therapeutic probe is a cryoprobe operable to cryoablate tissue at said treatment target.

45. (Original) The device of claim 42, wherein said cryoprobe is operable to be cooled by Joule-Thomson cooling.

46. (Original) The device of claim 45, wherein said cryoprobe is further operable to be heating by Joule-Thomson heating.

47. (Original) The device of claim 37, wherein said template comprises an elastic pressure clamp utilizable to rigidly affix said template to said orientation probe.

48. (Original) The device of claim 47, wherein said elastic pressure clamp is operable to be released by pressure on a handle of said template.

49. (Original) The device of claim 37, wherein said template comprises a plurality of probe guides.

50. (Original) The device of claim 49, further comprising a plurality of therapeutic probes, each operable to be inserted through one of said plurality of probe guides.

51. (Original) The device of claim 37, wherein said orientation probe comprises as set of marks useable to measure a distance of insertion of said orientation probe through said template.

52. (Original) The device of claim 51, wherein said at least one therapeutic probe comprises a set of marks useable to measure a distance of insertion of said at least one therapeutic probe through said template.

In re Application of: Ron HILLELY
Serial No.: 10/553,631
Filed: October 19, 2005
Office Action Mailing Date: May 11, 2009

Examiner: Jaymi E. DELLA
Group Art Unit: 4137
Attorney Docket: 30669

53. (Original) The device of claim 37, wherein said at least one probe guide is an aperture in said template, said aperture is operable to constrain a therapeutic probe inserted therethrough to move only along a predetermined movement axis, said axis having a constant orientation with respect to said template.

54. (Original) The device of claim 53, wherein said template further comprises a plurality of said apertures.

55. (Original) The device of claim 54, wherein said template comprises a plurality of apertures whose axes are mutually parallel.

56. (Original) The device of claim 53, wherein said predetermined axis is perpendicular to a face of said template.

57. (Original) The device of claim 54, wherein said template comprises a plurality of apertures whose axes are oriented in a common direction.

58. (Original) The device of claim 57, wherein said common direction is perpendicular to a surface of said template.

59. (Original) The device of claim 57, wherein said common direction is substantially parallel to a direction at which said orientation probe extends from said template, when said orientation probe is affixed to said template.

60. (Original) The device of claim 59, wherein said common direction is perpendicular to a surface of said template.

61. (Original) The device of claim 37, wherein said orientation probe is a therapeutic probe.

62. (Original) The device of claim 37, wherein said orientation probe is a cryoprobe.

63. (Original) The device of claim 37, wherein said at least one probe guide is of fixed orientation with respect to said template.

64. (Original) The device of claim 37, wherein said at least one probe guide is of variable orientation with respect to said template.

65. (Original) The device of claim 49, wherein said template comprises a plurality of probe guides whose axes are oriented so as to concentrate distal portions of a plurality of probes inserted therethrough.

66. (Original) The device of claim 49, wherein said template comprises a plurality of probe guides whose axes are oriented so as to disperse distal portions of a plurality of probes inserted therethrough.

67. (Original) The device of claim 37, wherein said template is constructed of ertacetal resin.

68. (Currently Amended) The device of claim 37 wherein said template further comprises circular markings indicating approximate boundaries of ~~expected~~ tissue destruction to be expected if ~~when~~ ablation probes are inserted through probe guides of said template ~~into a body of a patient and said probes are activated~~and used to ablate body tissues ~~under standardized conditions~~.

69. (Original) The device of claim 37, wherein said template is operable to be rigidly affixed to said orientation probe by pressure clamping.

70. (Original) The device of claim 69, operable to grip said orientation probe between two separable parts of a gripping aperture, and further operable to release said orientation probe when a squeezing pressure is applied to a handle of said template.